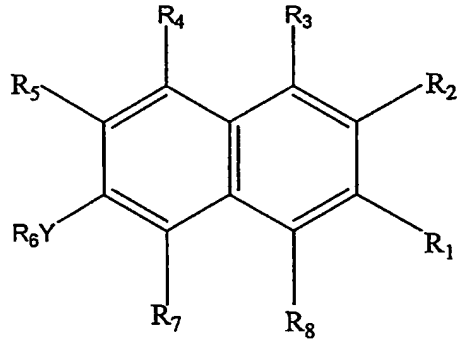
CLAIMS:

1. A method of inhibiting cytokine or biological activity of MIF comprising contacting MIF with a cytokine or biological activity inhibiting effective amount of a compound of formula (I), or a pharmaceutically acceptable salt or prodrug thereof



wherein

Y is O, NR_9 or $S(O)_q$,

R_1 is selected from hydrogen, C_{1-6}alkyl, $-(CR_{10}R_{10'})_n$halo, $-(CR_{10}R_{10'})_nOR_{11}$, $-(CR_{10}R_{10'})_n-SR_{11}$, $-(CR_{10}R_{10'})_n-N(R_{12})_2$, $-(CR_{10}R_{10'})_nS(O)R_{11}$, $-(CR_{10}R_{10'})_nS(O)_2R_{11}$, $-(CR_{10}R_{10'})_n-S(O)_3R_{11}$, $-(CR_{10}R_{10'})_nC(O)R_{13}$, $-(CR_{10}R_{10'})_n-C(=NR_{14})R_{15}$ or $-(CR_{10}R_{10'})_nR_{16}$;

R_2 is selected from hydrogen, C_{1-20}alkyl, C_{2-20}alkenyl, C_{2-20}alkynyl, $-(CR_{10}R_{10'})_mOR_{17}$, $-(CR_{10}R_{10'})_mSR_{17}$, $-(CR_{10}R_{10'})_mNR_{18}R_{19}$, $-(CR_{10}R_{10'})_mS(O)R_{20}$, $-(CR_{10}R_{10'})_mS(O)_2R_{20}$, $-(CR_{10}R_{10'})_mC(O)R_{20}$, $-(CR_{10}R_{10'})_mC(S)R_{20}$, $-(CR_{10}R_{10'})_mC(=NR_{11})R_{15}$ or $-(CR_{10}R_{10'})_mR_{16}$;

R_3, R_4 and R_5 are independently selected from hydrogen, C_{1-3}alkyl, $-(CR_{10}R_{10'})_nN(R_{14})_2$, $-(CR_{10}R_{10'})_nOR_{14}$, $-(CR_{10}R_{10'})_nSR_{14}$ or $-(CR_{10}R_{10'})_n$halo;

R_6 is selected from hydrogen, C_{1-6}alkyl, $-C(O)C_{1-6}$alkyl, $-C(O)N(R_9)_2$-, $-C(S)N(R_9)_2$-, $-(CR_{10}R_{10'})_nR_{21}$, or R_6Y and R_5 together may form $-X-(CH_2)_t-Z-$, where X and Z may be independently selected from O, S or NR_{14};

R_7 and R_8 are independently selected from hydrogen, C_{1-3}alkyl, C_{2-3}alkenyl, C_{2-3}alkynyl or $-(CR_{10}R_{10'})_nR_{22}$;

Each R_9 is independently selected from H or C_{1-6}alkyl;

Each R_{10} and $R_{10'}$ is independently selected from hydrogen, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, halogen, OR_{11}, SR_{11}, C_{1-3}alkoxy, CO_2R_{14}, $N(R_{14})_2$, -CN, NO_2, aryl or heterocyclyl;

R_{11} is hydrogen or C_{1-6}alkyl;

Each R_{12} is independently selected from hydrogen, C_{1-6}alkyl, NH-$C(=NR_{14})R_{15}$, $C(O)R_{14}$ or $C(S)R_{14}$;

R_{13} is hydrogen, C_{1-6}alkyl, OR_{14}, SR_{14} or $N(R_{14})_2$;

Each R_{14} is independently selected from hydrogen or C_{1-3}alkyl;

R_{15} is C_{1-6}alkyl, NH_2, $NH(C_{1-3}alkyl)$ or $N(C_{1-3}alkyl)_2$, OR_{23} or SR_{23};

R_{16} is hydroxy, C_{1-3}alkoxy, SH, SC_{1-3}alkyl, halo, $C(O)R_{31}$, $C(R_{24})_3$, CN, aryl or heterocyclyl;

R_{17} is selected from hydrogen, C_{1-20}alkyl, C_{2-20}alkenyl, C_{2-20}alkynyl, $(CR_{26}R_{26'})_sR_{27}$, $C(O)R_{25}$, CO_2R_{25}, $C(S)R_{25}$, $C(S)OR_{25}$, $S(O)R_{25}$, $S(O)_2R_{25}$, $[C(O)CH(R_{29})NH]_r$-R_{23} or $[sugar]_r$;

R_{18} and R_{19} are independently selected from hydrogen, C_{1-20}alkyl, C_{2-20}alkenyl, C_{2-20}alkynyl, $(CR_{26}R_{26'})_sR_{27}$, $C(O)R_{25}$, $C(S)R_{25}$, $S(O)R_{25}$, $S(O)_2R_{25}$, $[C(O)CH(R_{29})NH]_r$-R_{23}, $[sugar]_r$, $C(=NR_{23})NH_2$ or NH-$C(=NR_{23})NH_2$;

R_{20} is selected from hydrogen, C_{1-20}alkyl, C_{2-20}alkenyl, C_{2-20}alkynyl, OR_{28}, SR_{28}, $N(R_{28})_2$, $[NH\text{-}CHR_{29}C(O)]_r\text{-}OR_{23}$, $[sugar]_r$ or $(CR_{26}R_{26'})_sR_{27}$;

R_{21} is OR_{28}, SR_{28}, halo or $N(R_{25})_2$;

R_{22} is halo, CO_2H, SO_3H, NO_2, NH_2, CO_2C_{1-3}alkyl, SO_3C_{1-3}alkyl or $C(R_{24})_3$;

R_{23} is hydrogen or C_{1-3}alkyl;

Each R_{24} is independently selected from hydrogen, Cl or F;

Each R_{25} is independently selected from hydrogen, C_{1-20}alkyl, C_{2-20}alkenyl, C_{2-20}alkynyl, aryl or $(CR_{26}R_{26'})_sR_{27}$;

Each R_{26} and $R_{26'}$ is independently selected from hydrogen, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, halogen, hydroxy, C_{1-3}alkoxy, CO_2H, CO_2C_{1-3}alkyl, NH_2, $NH(C_{1-3}$alkyl), $N(C_{1-3}$alkyl$)_2$, CN, NO_2, aryl or heteroaryl;

R_{27} is hydroxy, C_{1-3}alkoxy, SH, SC_{1-3}alkyl, halo, NH_2, $NH(C_{1-3}$alkyl), $N(C_{1-3}$alkyl$)_2$, $C(O)R_{31}$, aryl or heterocyclyl;

Each R_{28} is independently selected from hydrogen, C_{1-20}alkyl, C_{2-20}alkenyl, C_{2-20}alkynyl or $(CR_{26}R_{26'})_sR_{30}$;

R_{29} is the characterising group of an amino acid;

R_{30} is halogen, hydroxy, C_{1-3}alkoxy, NH_2, $NH(C_{1-3}$alkyl), $N(C_{1-3}$alkyl$)_2$, $C(O)R_{31}$, aryl or heterocyclyl;

R_{31} is C_{1-3}alkyl, OH, C_{1-3}alkoxy, aryl, aryloxy, heterocyclyl or heterocyclyloxy;

q is 0, 1, 2 or 3;
n is 0, 1, 2 or 3;
m is 0 or 1 to 20;
r is 1 to 5;
s is 1 to 10; and
t is 1 or 2;

wherein an alkyl, alkenyl, alkynyl, alkyloxy, aryl or heterocyclyl group may be optionally substituted one or more times.

2. A method according to claim 1 wherein Y is O, NH, NC_{1-6}alkyl, or $S(O)_q$ wherein q is 0, 1, 2 or 3.

3. A method according to claim 1 wherein R_1 is hydrogen, C_{1-6}alkyl, $(CH_2)_nOH$, $(CH_2)_nNH_2$, $(CH_2)_nSH$, $(CH_2)_nCF_3$, $(CH_2)_nCO_2H$, $(CH_2)_nCO_2C_{1-3}$alkyl, $(CH_2)_nC(O)NH_2$, $(CH_2)_nC(O)NHC_{1-3}$alkyl, $(CH_2)_nC(O)N(C_{1-3}alkyl)_2$, $(CH_2)_nSO_3H$ or $(CH_2)_nSO_3C_{1-3}$alkyl, where n is 0, 1, 2 or 3.

4. A method according to claim 1 wherein R_2 is selected from C_{2-20}alkyl, C_{1-20}alkenyl, $(CR_{10}R_{10'})_mOH$, $(CR_{10}R_{10'})_mOC_{1-20}$alkyl, $(CR_{10}R_{10'})_mOC_{2-20}$alkenyl, $(CR_{10}R_{10'})_mOC(O)C_{1-20}$alkyl, $(CR_{10}R_{10'})_mOC(O)C_{2-20}$alkenyl, $(CR_{10}R_{10'})_mOC(O)$aryl, $(CR_{10}R_{10'})_mO[C(O)CH(R_{29})NH]_r$-H, $(CR_{10}R_{10'})_mO[sugar]_r$, $(CR_{10}R_{10'})_mNHC_{1-20}$alkyl, $(CR_{10}R_{10'})_mN(C_{1-20}alkyl)_2$, $(CR_{10}R_{10'})_mNHC_{2-20}$alkenyl, $(CR_{10}R_{10'})_mN(C_{2-20}alkenyl)_2$, $(CR_{10}R_{10}mN(C_{1-20}alkyl)(C_{2-20}alkenyl)$, $(CR_{10}R_{10'})_mNHC(O)C_{1-20}$alkyl, $(CR_{10}R_{10'})_mNHC(O)C_{2-20}$alkenyl, $(CR_{10}R_{10'})_mNHC(O)$aryl, $(CR_{10}R_{10'})_mNH[C(O)CH(R_{29})NH]_r$-H, $(CR_{10}R_{10'})_mNH$-[sugar]$_r$, $(CR_{10}R_{10'})_mSO_3H$, $(CR_{10}R_{10'})_mSO_3C_{1-20}$alkyl, $(CR_{10}R_{10'})_mSO_3C_{2-20}$alkenyl, $(CR_{10}R_{10'})_mC(O)C_{1-20}$alkyl, $(CR_{10}R_{10'})_mC(O)C_{2-20}$alkenyl, $(CR_{10}R_{10'})_mCO_2H$, $(CR_{10}R_{10'})_mCO_2C_{1-20}$alkyl, $(CR_{10}R_{10'})_mCO_2C_{2-20}$alkenyl, $(CR_{10}R_{10'})_mC(O)NHC_{1-20}$alkyl, $(CR_{10}R_{10'})_mC(O)N(C_{1-20}alkyl)_2$, $(CR_{10}R_{10'})_mC(O)NHC_{2-20}$alkenyl, $(CR_{10}R_{10'})_mC(O)N(C_{2-20}alkenyl)_2$,

$(CR_{10}R_{10'})mC(O)N(C_{1-20}alkyl)(C_{2-20}alkenyl)$, $(CR_{10}R_{10'})_mC(O)[NHCH(R_{29})C(O)]_r$-OH, $(CR_{10}R_{10'})_mC(O)[sugar]_r$, $(CR_{10}R_{10'})_mhalo$, $(CR_{10}R_{10'})_mCN$, $(CR_{10}R_{10'})_mheterocyclyl$, $(CR_{10}R_{10'})_maryl$, $(CR_{10}R_{10'})_mNHC(=NH)NH_2$, $(CR_{10}R_{10'})_mSO_2NHC_{1-20}alkyl$, $(CR_{10}R_{10'})_mC(O)O(CH_2)_{1-10}CO_2H$ or $(CR_{10}R_{10'})_mC(O)O(CH_2)_{1-10}CO_2C_{1-3}alkyl$; wherein each R_{10} and $R_{10'}$ is independently selected from hydrogen, $C_{1-6}alkyl$, $C_{2-6}alkenyl$, $C_{2-6}alkynyl$, halogen, OH, $OC_{1-6}alkyl$, CO_2H, $CO_2C_{1-3}alkyl$, NH_2, $NHC_{1-3}alkyl$, $-N(C_{1-3}alkyl)_2$, CN, NO_2, aryl or heterocyclyl; R_{29} is the characterising group of an amino acid, m is 0 or an integer from 1 to 20 and r is an integer from 1 to 5;

5. A method according to claim 1 wherein R_3 is selected from hydrogen, halo, NH_2, OH, $OC_{1-3}alkyl$, SH or $SC_{1-3}alkyl$.

6. A method according to claim 1 wherein R_4 is selected from hydrogen, halogen, $C_{1-3}alkyl$, $(CH_2)_nNH_2$, $(CH_2)_nNHC_{1-3}alkyl$, $(CH_2)_nNH(C_{1-3}alkyl)_2$, $(CH_2)_nOH$ or $(CH_2)_nOC_{1-3}alkyl$ and n is 0, 1, 2 or 3.

7. A method according to claim 1 wherein R_5 is selected from hydrogen, halogen, $(CH_2)_nNH_2$, $(CH_2)_nOH$, $(CH_2)_nOC_{1-3}alkyl$, $(CH_2)_nSH$ or $(CH_2)_nSC_{1-3}alkyl$ and n is 0, 1, 2 or 3.

8. A method according to claim 1 wherein R_6 is selected from hydrogen, $C_{1-3}alkyl$, $C(O)C_{1-3}alkyl$, $C(O)NH(C_{1-3}alkyl)$, $C(O)N(C_{1-3}alkyl)_2$, $C(S)NH(C_{1-3}alkyl)$ or $C(S)N(C_{1-3}alkyl)_2$.

9. A method according to claim 1 wherein R_5 and R_6Y taken together form $-X-(CH_2)_t-Z-$ wherein X and Z are independently selected from O and S and t is 1 or 2.

10. A method according to claim 1 wherein R_7 is selected from hydrogen, $C_{1-3}alkyl$, $(CH_2)_nSO_3H$, $(CH_2)_nNO_2$, $(CH_2)_nOH$, $(CH_2)_nCO_2H$, $(CH_2)_nNH_2$, $(CH_2)_nhalo$, $(CH_2)_nCH_2halo$, $(CH_2)_nCH(halo)_2$ or $(CH_2)_nC(halo)_3$ and n is 0, 1, 2 or 3.

11. A method according to claim 1 wherein R_8 is selected from hydrogen, C_{1-3}alkyl, or $(CH_2)_nR_{22}$, wherein R_{22} is halo, CH_2halo, $CH(halo)_2$ or $C(halo)_3$ and n is 0, 1, 2 or 3.

12. A method according to claim 1 wherein at least one of R_{10} and $R_{10'}$ in each $(CR_{10}R_{10'})$ is hydrogen.

13. A method according to claim 1 wherein at least one of R_{26} and $R_{26'}$ in each $(CR_{26}R_{26'})$ is hydrogen.

14. A method according to claim 1 wherein

Y is O, NR_9 or $S(O)_q$;

R_1 is hydrogen, C_{1-6}alkyl, $-(CH_2)_nC(O)R_{13}$, $-(CH_2)_nS(O)_3R_{11}$, $-(CH_2)_nNH_2$, $-(CH_2)_nOH$, $-(CH_2)_nSH$ or $-(CH_2)_nCF_3$, where R_{11} and R_{13} are defined in claim 1;

R_2 is selected from hydrogen, C_{1-20}alkyl, C_{2-20}alkenyl, C_{2-20}alkynyl, $-(CR_{10}R_{10'})_mOR_{17}$, $-(CR_{10}R_{10'})_mSR_{17}$, $-(CR_{10}R_{10'})_mNR_{18}R_{19}$, $-(CR_{10}R_{10'})_mS(O)R_{20}$, $-(CR_{10}R_{10'})_mS(O)_2R_{20}$, $-(CR_{10}R_{10'})_mC(O)R_{20}$, $-(CR_{10}R_{10'})_mC(S)R_{20}$, $-(CR_{10}R_{10'})_mC(=NR_{11})R_{15}$ or $-(CR_{10}R_{10'})_mR_{16}$, where m, R_{10}, $R_{10'}$, R_{11}, R_{15}, R_{16}, R_{17}, R_{18}, R_{19}, R_{20} are as defined in claim 1;

R_3 is selected from hydrogen, halo, amino, OH, OC_{1-3}alkyl or SH;

R_4 is selected from hydrogen, halogen, C_{1-3}alkyl, $(CH_2)_nNH_2$, $(CH_2)_nNHC_{1-3}$alkyl, $(CH_2)_nNH(C_{1-3}alkyl)_2$, $(CH_2)_nOH$ or $(CH_2)_nOC_{1-3}$alkyl;

R_5 is selected from hydrogen, halogen, $(CH_2)_nNH_2$, $(CH_2)_nOH$, $(CH_2)_nOC_{1-3}$alkyl, $(CH_2)_nSH$ or $(CH_2)_nSC_{1-3}$alkyl;

R_6 is hydrogen, C_{1-3}alkyl, CH_2halo, $C(O)NH(C_{1-3}alkyl)$, $C(O)N(C_{1-3}alkyl)_2$, $C(S)NH(C_{1-3}alkyl)$ or $C(S)N(C_{1-3}alkyl)_2$, CH_2OH or CH_2SH;

or R_5 and YR_6 together form X-$(CH_2)_t$-Z wherein X and Z are independently selected from O and S;

R_7 is selected from hydrogen, C_{1-3}alkyl, or $(CH_2)_nSO_3H$, $(CH_2)_nNO_2$, $(CH_2)_nOH$, $(CH_2)_nCO_2H$, $(CH_2)_nNH_2$, $(CH_2)_n$halo, $(CH_2)_nCH_2$halo, $(CH_2)_nCH(halo)_2$ or $(CH_2)_nC(halo)_3$,

R_8 is hydrogen, C_{1-3}alkyl or $(CH_2)_n$halo, and

q and n are 0, 1, 2 or 3.

15. A method according to claim 1 wherein

Y is O, NR_9 or $S(O)_q$;

R_1 is hydrogen, $(CH_2)_nCO_2H$, $(CH_2)_nCO_2C_{1-3}$alkyl, $(CH_2)_nSO_3H$, $(CH_2)_nNH_2$, C_{1-3}alkyl, $(CH_2)_nOH$ or $(CH_2)_nCF_3$;

R_2 is selected from hydrogen, C_{1-20}alkyl, C_{2-20}alkenyl, C_{2-20}alkynyl, $-(CR_{10}R_{10'})_mOR_{17}$, $-(CR_{10}R_{10'})_mSR_{17}$, $-(CR_{10}R_{10'})_mNR_{18}R_{19}$, $-(CR_{10}R_{10'})_mS(O)R_{20}$, $-(CR_{10}R_{10'})_mS(O)_2R_{20}$, $-(CR_{10}R_{10'})_mC(O)R_{20}$, $-(CR_{10}R_{10'})_mC(S)R_{20}$, $-(CR_{10}R_{10'})_mC(=NR_{11})R_{15}$ or $-(CR_{10}R_{10'})_mR_{16}$, where m, R_{10}, $R_{10'}$, R_{11}, R_{15}, R_{16}, R_{17}, R_{18}, R_{19}, R_{20} are as defined in claim 1;

R_3 is selected from hydrogen, OH or OC_{1-3}alkyl,

R_4 is selected from hydrogen, C_{1-3}alkyl, $(CH_2)_nNH_2$, $(CH_2)_nOH$ or $(CH_2)_nOC_{1-3}$alkyl;

R_5 is hydrogen, $(CH_2)_nOH$ or $(CH_2)_nOC_{1-3}$alkyl;

R_6 is hydrogen, C_{1-3}alkyl, CH_2halo, $C(O)NH(C_{1-3}$alkyl), $C(O)N(C_{1-3}$alkyl$)_2$, $C(S)NH(C_{1-}$

$_3$alkyl) or C(S)N(C_{1-3}alkyl)$_2$, CH_2OH or CH_2SH;

or R_5 and R_6 are taken together to form –O-$(CH_2)_t$-O where t is 1 or 2;

R_7 is selected from hydrogen, $(CH_2)_nSO_3H$, $(CH_2)_nNO_2$, $(CH_2)_nNH_2$, or $(CH_2)_n$halo

R_8 is hydrogen, CH_3, CF_3 or CCl_3;

and q and n are 0, 1, 2 or 3.

16. A method according to claim 1 wherein

Y is O, NR_9 or $S(O)_q$;

R_1 is hydrogen, $(CH_2)_nCO_2H$, $(CH_2)_nCO_2C_{1-3}$alkyl, $(CH_2)_nSO_3H$, $(CH_2)_nNH_2$, C_{1-3}alkyl, $(CH_2)_nOH$ or $(CH_2)_nCF_3$;

R_2 is selected from hydrogen, C_{1-20}alkyl, C_{2-20}alkenyl, -$(CR_{10}R_{10'})_mOH$, -$(CR_{10}R_{10'})_mNHC_{1-20}$alkyl, -$(CR_{10}R_{10'})_mNH[C(O)CH(R_{29})NH]$-H, -$(CR_{10}R_{10'})_mSO_3H$, -$(CR_{10}R_{10'})_mSO_3C_{1-20}$alkyl, -$(CR_{10}R_{10'})_mC(O)C_{1-20}$alkyl, -$(CR_{10}R_{10'})_mCO_2H$, -$(CR_{10}R_{10'})_mCO_2C_{1-20}$alkyl, -$(CR_{10}R_{10'})_m$CN, -$(CR_{10}R_{10'})_m$halo, -$(CR_{10}R_{10'})_m$aryl, -$(CR_{10}R_{10'})_m$heterocyclyl, -$(CR_{10}R_{10'})_mNHC(=NH)NH_2$, -$(CR_{10}R_{10'})_mSO_2NHC_{1-20}$alkyl, $CO_2(CH_2)_{1-10}CO_2H$ or $CO_2(CH_2)_{1-10}CO_2C_{1-3}$alkyl, where m, R_{10} and $R_{10'}$ are as defined in claim 1;

R_3 is selected from hydrogen, OH or OC_{1-3}alkyl,

R_4 is selected from hydrogen, C_{1-3}alkyl, $(CH_2)_nNH_2$, $(CH_2)_nOH$ or $(CH_2)_nOC_{1-3}$alkyl;

R_5 is hydrogen, $(CH_2)_nOH$ or $(CH_2)_nOC_{1-3}$alkyl;

R_6 is hydrogen, C_{1-3}alkyl, CH_2halo, C(O)NH(C_{1-3}alkyl), C(O)N(C_{1-3}alkyl)$_2$, C(S)NH(C_{1-

$_3$alkyl) or C(S)N(C_{1-3}alkyl)$_2$, CH_2OH or CH_2SH;

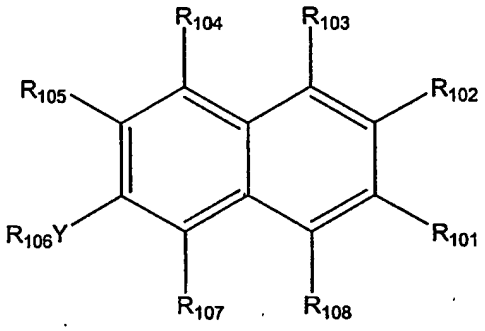
or R_5 and R_6 are taken together to form –O-$(CH_2)_t$-O where t is 1 or 2;

R_7 is selected from hydrogen, $(CH_2)_nSO_3H$, $(CH_2)_nNO_2$, $(CH_2)_nNH_2$, or $(CH_2)_n$halo;

R_8 is hydrogen, CH_3, CF_3 or CCl_3;

and q and n are 0, 1, 2 or 3.

17. A method according to claim 1 wherein the compound of formula (I) is a compound of formula (II):



(II)

wherein Y is selected from –O-, -NH-, -NC_{1-3}alkyl- or –S$(O)_q$-;

R_{101} is selected hydrogen, C_{1-6}alkyl, CO_2H or CO_2C_{1-6}alkyl;

R_{102} is selected from C_{1-20}alkyl, C_{2-20}alkenyl, CO_2H, CO_2C_{1-20}alkyl, CO_2C_{2-20}alkenyl, $CO_2(CH_2)_mR_{109}$, SO_3H, SO_3C_{1-20}alkyl, SO_3C_{2-20}alkenyl, $SO_3(CH_2)_mR_{109}$, $C(O)C_{1-20}$alkyl or $(CH_2)_mR_{110}$;

R_{103} is selected from hydrogen, hydroxy, methoxy or C_{1-3}alkyl;

R_{104} is selected from hydrogen, C_{1-3}alkyl, NH_2, $NH(C_{1-3}alkyl)$, $N(C_{1-3}alkyl)_2$ or $(CH_2)_nOH$;

R_{105} is selected from hydrogen, $(CH_2)_nOH$ or $(CH_2)_nOC_{1-3}$alkyl;

R_{106} is selected from hydrogen, C_{1-3}alkyl, $C(O)NH_2$, $C(O)NH(C_{1-3}alkyl)$, $C(O)N(C_{1-3}alkyl)_2$, $C(S)NH_2$, $C(S)NH(C_{1-3}alkyl)$ or $C(S)N(C_{1-3}alkyl)_2$;

R_{107} is selected from hydrogen, hydroxy, halo, amino, nitro, cyano, SO_3H or CO_2H;

R_{108} is selected from hydrogen or methyl;

R_{109} is selected from halogen, hydroxy, C_{1-3}alkoxy, NH_2, $NH(C_{1-3}alkyl)$, $N(C_{1-3}alkyl)_2$, CO_2H or CO_2C_{1-3}alkyl;

R_{110} is selected from hydroxy, C_{1-3}alkyl, halo, CO_2H, CO_2C_{1-3}alkyl, CN, NH_2, $NH(C_{1-3}alkyl)$ or $N(C_{1-3}alkyl)_2$;

n is 0 or an integer from 1 to 3;

m is 0 or an integer from 1 to 20; and

wherein an alkyl, alkenyl or alkyloxy, group may be optionally substituted one or more times.

18. A method according to claim 1 wherein the compound of formula (I) is selected from the group consisting of:

6,7-dihydroxy-2-naphthalene

6,7-dimethoxy-2-naphthalene

6,7-dimethoxy-2-acetonoaphthone

6,7-Dimethoxy-2-naphthoic acid

2-carboxy-6-hydroxynaphthalene-5-sulfonic acid

6,7-dihydroxy-2-naphthalenesulfonic acid

Pentyl 6,7-dihydroxy-2-naphthalenesulfonate

6-hydroxy-2-naphthalenesulfonic acid

6-methylamino-2-naphthalenesulfonic acid

2,3-dihydronaphtho[2,3-b][1,4]dioxine-7-carboxylic acid

Methyl 6-hydroxy-2-naphthoate

dodecanyl-6-hydroxy-2-naphthoate

[(6-hydroxy-2-naphthyl)carbonyl]oxyhexanoic acid

(6-methoxy-6-oxohexyl)-6-hydroxy-2-naphthoate

6-hydroxy-5-nitro-2-naphthoic acid

Ethyl 1,6-dihydroxy-2-naphthoate

Ethyl 6-[(dimethylamino)carbonyl]sulfanyl-1-methoxy-2-naphthoate

Ethyl 6-hydroxy-1-methoxy-2-naphthoate

Ethyl 6-[(dimethylamino)thiocarbonyl]oxy-1-methoxy-2-naphthoate

7-methoxy-3-hydroxy-2-naphthoic acid

Methyl 7-methoxy-3-hydroxy-2-naphthoate

Methyl 7-methoxy-3-methyl-2-naphthoate

7-methoxy-3-methyl-2-naphthoic acid

5-bromo-6-methoxy-2-methyl-3-naphthoic acid

6-hydroxy-[2-(1-pentylamino)methyl]-3-naphthoic acid

Methyl 3-bromomethyl-7-hydroxy-2-naphthoate

Methyl 7-methoxy-2-naphthoate

Methyl 7-hydroxy-2-naphthoate

Methyl 7-hydroxy-8-nitro-2-naphthoate

Methyl 6-hydroxy-5-nitro-2naphthoate

Methyl 6-methoxy-5-nitro-2-naphthoate

Methyl 5-amino-6-methoxy-2-naphthoate

Methyl 6-methoxy-2-naphthoate

2-hydroxymethyl-6-methoxynaphthalene

2-bromomethyl-6-methoxy-naphthalene

2-cyanomethyl-6-methoxynaphthalene

2-(1-cyano-1-hex-5-enyl)-6-methoxynaphthalene

2-(6-methoxy-2-naphthyl)hept-6-enoic acid

Methyl 2-(6-methoxy-2-naphthyl)hept-6-enoate

7-hydroxy-2-(6-methoxy-2-naphthyl)heptanoic acid

Methyl 6-methoxy-8-methyl-2-naphthoate ester

6-hydroxy-2-naphthanoic acid

6-methoxy-α-methyl-2-naphthalene acetic acid

2,6-naphthalene disulfonic acid.

19. A method of treating, preventing or diagnosing a disease or condition wherein MIF cytokine or biological activity is implicated comprising the administration of a treatment, prevention or diagnostic effective amount of a compound of formula (I) as defined in claim 1 or a pharmaceutically acceptable salt or prodrug thereof to a subject in need thereof.

20. A method according to claim 19 wherein the disease or condition is selected from autoimmune diseases, solid or haemopoeitic tumours, or chronic or acute inflammatory diseases.

21. A method according to claim 19 wherein the disease or condition selected from the group comprising rheumatic diseases, spondyloarthropathies, crystal arthropathies, Lyme disease, connective tissue diseases, vasculitides, glomerulonephritis, interstitial nephritis, inflammatory bowel disease, peptic ulceration, gastritis, oesophagitis, liver disease, autoimmune diseases, pulmonary diseases, cancers whether primary or metastatic, atherosclerosis, disorders of the hypothalamic-pituitary-adrenal axis, brain disorders, corneal disease, iritis, iridocyclitis, cataracts, uveitis, sarcoidosis, diseases characterised by modified angiogenesis, endometrial function, psoriasis, endotoxic (septic) shock, exotoxic (septic) shock, infective (true septic) shock, other complications of infection, pelvic inflammatory disease, transplant rejection, allergies, allergic rhinitis, bone diseases, atopic dermatitis, UV(B)-induced dermal cell activation, malarial complications, diabetes mellitus, pain, inflammatory consequences of trauma or ischaemia, testicular dysfunctions

and wound healing.

22. A method according to claim 21 wherein the disease or condition is selected from the group consisting of rheumatoid arthritis, osteoarthritis, psoriatic arthritis, ankylosing spondylitis, reactive arthritis, Reiter's syndrome, gout, pseudogout, calcium pyrophosphate deposition disease, systemic lupus erythematosus, systemic sclerosis, polymyositis, dermatomyositis, Sjögren's syndrome, polyarteritis nodosa, Wegener's granulomatosis, Churg-Strauss syndrome, ulcerative colitis, Crohn's disease, cirrhosis, hepatitis, diabetes mellitus, thyroiditis, myasthenia gravis, sclerosing cholangitis, primary biliary cirrhosis, diffuse interstitial lung diseases, pneumoconioses, fibrosing alveolitis, asthma, bronchitis, bronchiectasis, chronic obstructive pulmonary disease, adult respiratory distress syndrome, colon cancer, lymphoma, lung cancer, melanoma, prostate cancer, breast cancer, stomach cancer, leukemia, cervical cancer and metastatic cancer, ischaemic heart disease, myocardial infarction, stroke, peripheral vascular disease, Alzheimer's disease, multiple sclerosis, diabetic retinopathy, parturition, endometriosis, osteoporosis, Paget's disease, sunburn and skin cancer.

23. A method according to claim 19 wherein the subject is a human subject.

24. A pharmaceutical composition comprising a compound of formula (I) as defined in claim 1 or a pharmaceutically acceptable salt or prodrug thereof and a pharmaceutically acceptable carrier, diluent or excipient.

25. A pharmaceutical composition according to claim 24 further comprising a glucocorticoid.

26. A method of treating or preventing a disease or condition wherein MIF cytokine or biological activity is implicated comprising administering to a mammal a compound of formula (I) as defined in claim 1 or a pharmaceutically acceptable salt or prodrug thereof and a second therapeutic agent.

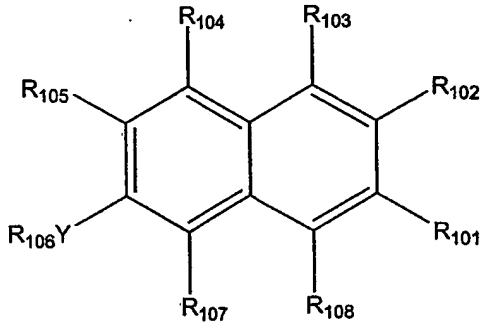
27. A method according to claim 26 wherein the second therapeutic agent is a glucocorticoid.

28. A method of prophylaxis or treatment of a disease or condition for which treatment with a glucocorticoid is indicated, said method comprising administering to a mammal a glucocorticoid and a compound of formula (I) as defined in claim 1 or a pharmaceutically acceptable salt or prodrug thereof.

29. A method of treating steroid-resistant diseases comprising administering to a mammal a glucocorticoid and a compound of formula (I) as defined in claim 1 or a pharmaceutically acceptable salt or prodrug thereof.

30. A method of enhancing the effect of a glucocorticoid in mammals comprising administering a compound of formula (I) as defined in claim 1 or a pharmaceutically acceptable salt or prodrug thereof, simultaneously, separately or sequentially with said glucocorticoid.

31. A compound of formula (II) or a pharmaceutically acceptable salt or prodrug thereof:



(II)

wherein Y is selected from –O-, -NH-, -NC_{1-3}alkyl- or –$S(O)_q$-;

R_{101} is selected hydrogen, C_{1-6}alkyl, CO_2H or CO_2C_{1-6}alkyl;

R_{102} is selected from C_{1-20}alkyl, C_{2-20}alkenyl, CO_2H, CO_2C_{1-20}alkyl, CO_2C_{2-20}alkenyl, $CO_2(CH_2)_mR_{109}$, SO_3H, SO_3C_{1-20}alkyl, SO_3C_{2-20}alkenyl, $SO_3(CH_2)_mR_{109}$, $C(O)C_{1-20}$alkyl or $(CH_2)_mR_{110}$;

R_{103} is selected from hydrogen, hydroxy, methoxy or C_{1-3}alkyl;

R_{104} is selected from hydrogen, C_{1-3}alkyl, NH_2, $NH(C_{1-3}alkyl)$, $N(C_{1-3}alkyl)_2$ or $(CH_2)_nOH$;

R_{105} is selected from hydrogen, $(CH_2)_nOH$ or $(CH_2)_nOC_{1-3}$alkyl;

R_{106} is selected from hydrogen, C_{1-3}alkyl, $C(O)NH_2$, $C(O)NH(C_{1-3}alkyl)$, $C(O)N(C_{1-3}alkyl)_2$, $C(S)NH_2$, $C(S)NH(C_{1-3}alkyl)$ or $C(S)N(C_{1-3}alkyl)_2$;

R_{107} is selected from hydrogen, hydroxy, halo, amino, nitro, cyano, SO_3H or CO_2H;

R_{108} is selected from hydrogen or methyl;

R_{109} is selected from halogen, hydroxy, C_{1-3}alkoxy, NH_2, $NH(C_{1-3}alkyl)$, $N(C_{1-3}alkyl)_2$, CO_2H or CO_2C_{1-3}alkyl;

R_{110} is selected from hydroxy, C_{1-3}alkyl, halo, CO_2H, CO_2C_{1-3}alkyl, CN, NH_2, $NH(C_{1-3}alkyl)$ or $N(C_{1-3}alkyl)_2$;

n is 0 or an integer from 1 to 3;

m is 0 or an integer from 1 to 20; and

wherein an alkyl, alkenyl or alkyloxy, group may be optionally substituted one or more

times.

32. A compound according to claim 31 wherein Y is selected from –O-, -S-, -NH- or SO_3.

33. A compound according to claim 31 wherein R_{101} is selected from hydrogen, CO_2H or CO_2C_{1-3}alkyl.

34. A compound according to claim 31 wherein R_{102} is selected from from C_{1-20}alkyl, C_{2-20}alkenyl, CO_2H, CO_2C_{1-20}alkyl, CO_2C_{2-20}alkenyl, $CO_2(CH_2)_mCO_2H$, SO_3H, SO_3C_{1-20}alkyl, SO_3C_{2-30}alkenyl, $SO_3(CH_2)_mCO_2H$, $(CH_2)_m$hydroxy, $(CH_2)_mNH_2$, $(CH_2)_mCN$ or $(CH_2)_m$halo.

35. A compound according to claim 31 wherein R_{103} is selected from hydrogen, hydroxy or methoxy.

36. A compound according to claim 31 wherein R_{104} is selected from hydrogen, hydroxy, methyl, NH_2 or CH_2OH.

37. A compound according to claim 31 wherein R_{105} is selected from hydrogen, hydroxy or methoxy.

38. A compound according to claim 31 wherein R_{106} is selected from hydrogen, C_{1-3}alkyl, $C(O)NH_2$, $C(O)NH(C_{1-3}alkyl)$, $C(O)N(C_{1-3}alkyl)_2$, $C(S)NH_2$, $C(S)NH(C_{1-3}alkyl)$ or $C(S)N(C_{1-3}alkyl)_2$.

39. A compound according to claim 31 wherein R_{107} is selected from hydrogen, hydroxy, halo, cyano, NH_2, nitro or SO_3H.

40. A compound according to claim 31 wherein R_{108} is hydrogen.

41. A compound of formula (I) selected from the group consisting of

6,7-dimethoxy-2-acetonoaphthone

2-carboxy-6-hydroxynaphthalene-5-sulfonic acid

Pentyl 6,7-dihydroxy-2-naphthalenesulfonate

2,3-dihydronaphtho[2,3-b][1,4]dioxine-7-carboxylic acid

Methyl 6-hydroxy-2-naphthoate

dodecanyl-6-hydroxy-2-naphthoate

[(6-hydroxy-2-naphthyl)carbonyl]oxyhexanoic acid

(6-methoxy-6-oxohexyl)-6-hydroxy-2-naphthoate

6-hydroxy-5-nitro-2-naphthoic acid

Ethyl 1,6-dihydroxy-2-naphthoate

Ethyl 6-[(dimethylamino)carbonyl]sulfanyl-1-methoxy-2-naphthoate

Ethyl 6-hydroxy-1-methoxy-2-naphthoate

Ethyl 6-[(dimethylamino)thiocarbonyl]oxy-1-methoxy-2-naphthoate

7-methoxy-3-hydroxy-2-naphthoic acid

Methyl 7-methoxy-3-hydroxy-2-naphthoate

Methyl 7-methoxy-3-methyl-2-naphthoate

7-methoxy-3-methyl-2-naphthoic acid

5-bromo-6-methoxy-2-methyl-3-naphthoic acid

6-hydroxy-[2-(1-pentylamino)methyl]-3-naphthoic acid

Methyl 3-bromomethyl-7-hydroxy-2-naphthoate

Methyl 7-methoxy-2-naphthoate

Methyl 7-hydroxy-2-naphthoate

Methyl 7-hydroxy-8-nitro-2-naphthoate

Methyl 6-hydroxy-5-nitro-2naphthoate

Methyl 6-methoxy-5-nitro-2-naphthoate

Methyl 5-amino-6-methoxy-2-naphthoate

Methyl 6-methoxy-2-naphthoate

2-hydroxymethyl-6-methoxynaphthalene

2-bromomethyl-6-methoxy-naphthalene

2-cyanomethyl-6-methoxynaphthalene

2-(1-cyano-1-hex-5-enyl)-6-methoxynaphthalene

2-(6-methoxy-2-naphthyl)hept-6-enoic acid

Methyl 2-(6-methoxy-2-naphthyl)hept-6-enoate

7-hydroxy-2-(6-methoxy-2-naphthyl)heptanoic acid

Methyl 6-methoxy-8-methyl-2-naphthoate ester.